

CLAIMS

1. A sealing material for semiconductor device, which is a sealing material containing a fluororubber as a rubber component and is characterized in that: the fluororubber inevitably contains a cured product of a vinylidene fluoride/ hexafluoropropylene/ tetrafluoroethylene elastic copolymer; and copolymerization ratios of respective monomers in the vinylidene fluoride/ hexafluoropropylene/ tetrafluoroethylene elastic copolymer are such that: a content of vinylidene fluoride is in the range of from 25 to 70 mol %; a content of hexafluoropropylene is in the range of from 15 to 60 mol %; a content of tetrafluoroethylene is in the range of from 15 to 60 mol %; and a fluorine content in the vinylidene fluoride/ hexafluoropropylene/ tetrafluoroethylene elastic copolymer is in the range of from 71.5 to 75 mass %.
2. The sealing material for semiconductor device according to claim 1, wherein curing of the vinylidene fluoride/ hexafluoropropylene/ tetrafluoroethylene elastic copolymer is performed by irradiation with ionizing radiation.
3. The sealing material for semiconductor device according to claim 1 or 2, wherein a fluorine content of the vinylidene fluoride/ hexafluoropropylene/ tetrafluoroethylene elastic copolymer is in the range of from 72 to 74.5 mass %.
4. The sealing material for semiconductor device according to claim 2 or 3, wherein an irradiation dose of the ionizing radiation is in the range of from 10 to 500 kGy.

5. A sealing material for semiconductor device, which is obtained by crosslinking, with ionizing radiation, a fluororubber preform containing a fluororubber component (a) comprising a vinylidene fluoride/ hexafluoropropylene elastic copolymer and/or a vinylidene fluoride/ hexafluoropropylene/ tetrafluoroethylene elastic copolymer and a non-elastic fluororesin component (b) comprising a vinylidene fluoride (co)polymer in composition of the fluororesin component (b) of 1 to 50 parts by mass relative to 100 parts by mass of the fluororubber component (a).

6. The sealing material for semiconductor device according to claim 5, wherein a copolymerization ratio of respective monomers in the vinylidene fluoride/ hexafluoropropylene elastic copolymer is vinylidene fluoride/ hexafluoropropylene = (50 to 95)/(5 to 50) (in mol %).

7. The sealing material for semiconductor device according to claim 5 or 6, wherein a copolymerization ratio of respective monomers in the vinylidene fluoride/ hexafluoropropylene/ tetrafluoroethylene elastic copolymer is vinylidene fluoride/ hexafluoropropylene/ tetrafluoroethylene = (20 to 80)/(10 to 70)/(10 to 70) (in mol %).

8. The sealing material for semiconductor device according to any of claims 5 to 7, wherein a fluorine content of the fluororubber component (a) is in the range of from 65 to 75 mass %.

9. The sealing material for semiconductor device according to any of claims 5 to 8, wherein a ratio of the fluororubber component (a) and the fluororesin component (b) is 5 to 20 parts by mass of the fluororesin component (b) relative to 100 parts by

mass of the fluororubber component (a).

10. The sealing material for semiconductor device according to any of claims 5 to 9, wherein an irradiation dose of the ionizing radiation is in the range of from 10 to 500 kGy.

11. A manufacturing method for a sealing material for semiconductor device, in which 100 parts by mass of a fluororubber component (a) comprising a vinylidene fluoride/ hexafluoropropylene elastic copolymer and/or a vinylidene fluoride/ hexafluoropropylene/ tetrafluoroethylene elastic copolymer and 1 to 50 parts by mass of a non-elastic fluoro-resin component (b) comprising a vinylidene fluoride (co)polymer are mixed at a temperature of a melting point of the fluoro-resin component (b) or higher, thereafter the mixture is preformed, and the obtained preform is irradiated with ionizing radiation.